1953 Index

PETROLEUM PROCESSING

Volume 8
January-December
1953

Published Monthly by
McGRAW-HILL PUBLISHING CO., INC.
330 West 42nd Street
New York 36, New York

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LP – Laboratory Practices
Pat – Patent Reviews
PP – Plant Practices
T – Tomorrow in Petroleum Technology
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Ed	–	Editorials
LP	–	Laboratory Practices
Pat	–	Patent Reviews
PP	–	Plant Practices
T	–	Tomorrow in Petroleum Technology
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LP – Laboratory Practices
Pat – Patent Reviews
PP – Plant Practices
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TARNPOLL, M. – Aromatics Recovery by Hydroforming and Phenol Extraction . . . Jan. 81
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THORNTON, D. P., JR. – Hydrazine at Lake Charles . . . . . Oct. 1540
THORNTON, D. P., JR. – Plastic Solves Scrubbing Problems . . . . . Sept. 1328
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van RIEMSDIJK, A. J. – How to Test Cement for Erosion Resistance . . . . . Oct. 1514
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WHALEN, JAMES M – When and Where to Use Air-Cooled Heat Exchangers . . . . Oct. 1528
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WHITE, ROBERT R. – Stripping of Quaternary Mixtures (To Help You Design Fractionators, Part 3) . . . . . May 704
WHITE, ROBERT R. – Stripping and Rectifying of Multicomponent Systems (To Help You Design Fractionators, Part 4) . . . . . June 892
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WHITE, ROBERT R. – Distillation of Ternary Mixtures (To Help You Design Fractionators, Part 6) . . . . . Aug. 1174
WHITE, ROBERT R. – Distillation of Quaternary Mixtures (To Help You Design Fractionators, Part 7) . . . . . Sept. 1336
WHITE, ROBERT R. – Distillation of Quaternary Mixtures (To Help You Design Fractionators, Part 8) . . . . . Oct. 1533
WHITE, ROBERT R. – Distillation of Quaternary Mixtures (To Help You Design Fractionators, Part 9) . . . . . Nov. 1705
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